

TRANSACTIONS OF THE SECTION ON GENERAL SURGERY OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, April 12, 1895.

DR. WILLIAM W. KEEN in the Chair.

CATHETERIZATION OF THE URETERS IN THE FEMALE.

DR. GEORGE E. SHOEMAKER read a paper on "Catheterization of the Ureters." (See page 650.)

DR. JOHN B. ROBERTS thought that Dr. Shoemaker's method deserved to be adopted by all who have to resort to these operations. In a case of suspected renal calculus impacted in the ureter, an attempt at catheterization was made by his colleague, Dr. Fullerton, but the instrument could not go through the ureter. A section was then made, a nephrectomy done, and a catheter was inserted into the ureter; but it stopped within two inches of the bladder. He then turned the woman over and Dr. Fullerton introduced a catheter again into the vesical end of the ureter and found that the instrument passed by the other one. By this means he located a small stone in the ureter, which may have been due to a pelvic abscess, for which a coliotomy will be done at some future time. While this is not exactly a case of the kind contemplated by Dr. Shoemaker, it is analogous. The ureter was simply sutured to the wall of the back, and the wound healed up. The patient was a great deal better for a time after the operation.

URETHRAL CALCULUS.

DR. ORVILLE HORWITZ read a communication on "Stone in the Urethra." (See page 655.)

THE TREATMENT OF FRACTURE OF THE PATELLA.

DR. J. WILLIAM WHITE read a paper on "Treatment of Fractured Patella" and presented three cases.

DR. W. W. KEEN read a paper on "Treatment of Old Fractured Patella by Wiring the Fragments." (For these papers, see pages 661, 671.)

DR. JOHN ASHHURST said that in considering the treatment of fractured patella a good deal of stress should be laid upon the character of the fracture; a fracture of the patella in one case is not the same as a fracture of the patella in another case. The patella in structure is a sesamoid bone, and he thought that its functional importance had been exaggerated. For many years it was supposed that a man with a broken clavicle could not lift up his arm above his head, but this was shown to be a mistake; the patient could lift the arm, only it hurt him too much, and this is the reason why he does not do it. Similarly, it has been supposed that a man with fractured patella could not walk; but it has been ascertained that this is not so. During a campaign, while certain soldiers of the French army were scouting, several cases of fractured patella occurred. Having the choice before them of walking back to camp or of being captured, they walked home. If the patella is broken and there are no complications, the disability is very slight, as it is only a sesamoid bone. If the fibres of the lateral capsular expansion of the tendon and the attachments all around the bone retain their integrity, the patient still has the power to extend the leg as well as he did before the patella was fractured. After excision of the patella, as in gun-shot wounds, after the patella is all taken out, which is really the best treatment, the function of the quadriceps tendon and movements of the limb are not interfered with. Therefore we may conclude that a great many cases of fractured patella will recover and have a very useful limb without any special method of treatment. My own experience had been that in simple fracture of the patella, in the majority of cases, by the ordinary method of treatment a satisfactory result will be obtained. Perhaps not so good as Dr. White obtains, but fairly good. There are cases in which there are five or six inches of separation, and yet the patient is able to walk about and attend to the ordinary duties of life, such as a sailor going up aloft and so on. This is because the fibres of the quadriceps tendon are not broken.

Dr. Jonathan Hutchinson maintains that the sole cause of the

separation of the fragments is effusion into the joint. The upper fragment is not drawn up by the fibres of the muscle, but it is forced up by the effusion. All that is necessary is to remove the effusion in order to secure apposition. Not feeling like relying absolutely upon this method, the speaker put on splints and elevated the limb. He did not like to let the patients sit up in the chair as recommended by Professor Hamilton, because he thought they were more comfortable in bed. In the great majority of cases nothing more is needed. It is best that the dressing should be applied as promptly as possible to anticipate any shortening of the muscle, and it should be readjusted from time to time, so as to follow up the subsidence of the swelling, when the upper fragment can be brought down in close contact, though not at first. A firm fibrous union is just as satisfactory as the results of any of the dangerous cutting methods.

In fact, the disability after fracture of the patella is not all due to inability to throw the limb forward, but is often due to ankylosis. It is necessary for some six months after the injury to keep up some kind of support so as to prevent possible injury, and as a result some stiffness will result, but this will pass off by the physiological use of the limb and yield a perfectly satisfactory result. He had been obliged to resort to the use of the wire suture in only a single case; in this case there was entire separation of the patella and rupture of the ligament at the side. He also had made a number of transverse scorings in the under side of the ligament to lengthen it, though not to the extent that Dr. Keen described.

He said that one method of treatment which had been brought forward of late years seemed to him to be judicious and promising. The method he referred to was to place an acupressure-pin transversely through the soft tissues and tendon just above the patella and another through the ligamentum patellæ, and then throw a ligature around these pins to hold the fragments in apposition. It is impossible in this method to open the joint as with Malgaigne's hooks and less likely to excite inflammation of the skin. The procedure is simple and can be easily performed. Although he had not yet used this method, it commended itself to him.

He questioned the fact of bony union and referred to Sayre's case, which in the dry specimen appeared to be united by bone, but after soaking for a time in alcohol it was found to be only ligamentous. The arguments with regard to bony union are misleading and theoretical; the ligamentous union is just as good as a bony one.

As regards the comparative value of methods of treatment, he would give the preference to those which did not enter the joint over those in which the joint is implicated.

DR. KEEN said that he had seen a case of fracture of the patella which occurred subsequently to the healing of a former fracture. The line of the second fracture did not coincide with that of the former, which would prove that the ligamentous union was stronger than the rest of the bone.

DR. G. G. DAVIS thought that the interposition of fibrous bands of tissue might delay healing, but would not produce markedly deleterious results, and that their influence in producing such results had been exaggerated. In a case of fracture of the tibia, which he had treated conservatively without operation, the fascia was puckered in by the lower fragment. In six weeks there was firm consolidation, therefore, while the interposition of fibrous tissue might have interfered with the rapidity of healing, it did not prevent union in this case. There are cases in which, after waiting a few days, the swelling may go down and the fragments may be approximated without any trouble. When this occurs, he believed that approximation with adhesive strips and bandages will produce satisfactory results. In other cases, where the effusion is so great as to widely separate the fragments, he would tap the joint and irrigate with normal salt solution, and then use Malgaigne's hooks. In a case where the separation amounted to about three-quarters of an inch, he had opened the joint and found that a projecting spicule of bone from the lower fragment had prevented approximation. He simply pushed the spicule backward and approximated the fragments with Malgaigne's hooks and united the skin beneath. This is the method of Mr. Treves and is superior to any method which leaves a foreign body in the joint. The success of Dr. White depends upon the fact that he does not use the needle to penetrate the joint, but makes an incision which permits drainage to occur. The passage of a silk thread through the joint seems a great source of danger, as it has been shown that it is impossible to disinfect the deeper layers of the skin, and the silk fibres constitute an immense number of capillary tubes through which infective material might be carried into the joint. Silk has not been very satisfactory in surgery. In spite of every precaution, stitch-abscess will often result. In the abdominal operations, silk ligatures cause sinuses; in the inguinal canal and in ligation of arteries, silk has proved unsatisfactory. Still, it may be that in a certain class of cases, as in this

operation of Barker, the silk ligatures might prove a successful feature.

The good results obtained by Dr. White are attributable to the fact that he practises passive motion early, and not because he uses the silk ligature. Champonnière depended upon wire, so that his patients could walk soon afterwards, as the rule. If a modification of Malgaigne's hooks could be devised, which would allow of the same passive motion as other methods, they would give better results. There is some motion even with ordinary Malgaigne's hooks, and in preference to allowing any foreign body to enter the joint, he would prefer the use of the hooks, as suggested.

DR. JOHN B. ROBERTS said that his experience had led him to the conclusion that in transverse fractures of the patella due to muscular force, a few cases might be treated with adhesive straps and supporting apparatus; but the majority of these cases, however, should be treated by Malgaigne's hooks modified by Dr. Levis. He had himself had good results from this method and had witnessed them in the hands of others. For such a fracture he would not want to have a joint opened in his own body; but he would, however, be willing to have the joint opened if there were very extensive separation of the fragments. The opening of the joint with antisepctic methods is not a very serious operation. In compound fractures he would use the open method; but in other cases he would not use it, simply because there would be a failure of antisepsis.

After fracture of the patella, he doubted if bony union ever occurs. Some years ago he had seen a specimen which he believed to be an illustration of bony union, but on macerating it for a while it wobbled about like a hinge, when it again dried it looked like bony union and the fibrous tissue could not be detected. In fact, it does not matter whether the union is bony or ligamentous, if it is firm. In conclusion, he exhibited a plaster cast of a fracture of the patella, with a separation of three inches between the fragments. The patient was able to walk, and was brought into the hospital with a dislocation of the tibia and fibula backward and a fracture of the patella of the opposite leg, for which he was treated in the hospital, and while there he called attention to this old fracture of the other patella, which was well shown in the cast.

DR. JOSEPH HEARN had never treated a case by the Barker method, but always followed the old plan of elevating the limb and using adhesive plaster and a posterior splint. In a recent case treated

by him, when he moved his hand over the patella he could not tell whether it was bony union or not, but on careful examination, he found it to be ligamentous. He had kept a supporting apparatus on for six months, and the patient, while he claimed to have perfect use of the limb, could not flex it quite as well as he should, probably from the cause assigned by Dr. Ashhurst.

DR. J. WILLIAM WHITE, in closing the discussion, said that the whole matter turns on what is regarded as a satisfactory result. The term is a very vague one, and depends upon the mind of the surgeon and the mind of the patient; but he had not seen any results from what has been termed the old-fashioned treatment which would compare with those he had obtained from the operation illustrated by the patients he had presented. This was not claimed alone by him, but also by others who had used this plan. It is a question in the first place of shortening the time of treatment. Dr. Ashhurst has spoken about wearing apparatus for nine months, and a year may pass before there is good use of the limb; while one of the men, shown by him, had been operated upon only eleven weeks before, and yet is already attending to his work without any apparatus. This is the most striking result that he had seen from this plan of treatment.

The objection to the use of Malgaigne's hooks is that there is no provision for the removal of effusion or of blood-clots, which may afterwards become organized. From the opening of the joint comes not only blood-clots but bloody synovia in considerable quantity, which, if allowed to remain, would interfere considerably with subsequent repair.

He did not attach much importance to the question of bony union. In one of the cases presented this evening, Dr. Keen thought it was bony union and Dr. Ashhurst thought it was not.

Viewing the subject clinically rather than from the stand-point of pathological museum results, he called attention to the fact that two patients were present who had only been in bed a few weeks, both of whom were back at their work inside of two months from the time of injury. The third one was discharged from the hospital and is now back at work in eleven weeks. The union of the patella is perfect, and the lower fragment is in apposition with the upper without separation.

Dr. Keen's case was very interesting. Staff Surgeon Cameron had recommended transverse incisions in the quadriceps muscle, and Lister had nicked the muscle and added considerably to its length; but the cutting of the tubercle of the tibia he believed was new.

A MODIFIED EXTENSION APPARATUS FOR THE TREATMENT OF FRACTURE OF THE PATELLA.

DR. WILLIAM BARTON HOPKINS presented an apparatus for making extension in cases of fracture of the patella. The apparatus shown in the accompanying illustration will be seen to act like an Indian puzzle, which is, as familiarly known, a small cylinder of wicker work, which, owing to its peculiar arrangement, closes itself more tightly about the finger the more it is drawn upon. The apparatus consists simply of a basket-like series of half-inch rubber straps, so applied that their lower ends terminate at points to the outer and inner side of the knee and are attached to rings. To these the ordinary extension apparatus



Hopkins's modified extension apparatus for the treatment of fracture of the patella.

with pulley and weight is fastened. This part of the apparatus is intended to relax and draw down all the tissues of the thigh, while traction upon the upper fragment of the patella is obtained by two or three rubber straps carried across the latter and made fast to the rings. After the appliance has settled into place, the lower fragment may, if necessary, be supported by one or two straps carried upward. The essential feature, and the only one which is novel in the device, is, of course, the basket-like arrangement of the straps, as extension with adhesive plaster or leather has long been employed. He had found it most comfortable to the patient and entirely satisfactory in cases where there is little separation of fragments. It paralyzes the mus-

cles of the thigh by its steady, unremitting pressure and draws down the upper fragment, and yet causes no tendency to swelling of the limb below. So far as he had been able to observe, it acts as well when the patient sits up as when he lies down ; indeed, when it is remembered that flexion of the thigh on the abdomen lessens the distance between the origin and insertion of the quadriceps extensor of the thigh, there seems no reason why sitting up should do harm, provided the change in posture can be made without any muscular contraction.